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Trichospermum lessertianum comb. n., the correct name for the Cuban species of *Trichospermum* (Malvaceae, Grewioideae) also found in Mexico and Central America

Laurence J. Dorr

Department of Botany, National Museum of Natural History, MRC–166, Smithsonian Institution, P.O. Box 37012, Washington, D.C. 20013–7012, U.S.A.

Corresponding author: *Laurence J. Dorr* (dorrl@si.edu)

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Abstract

The correct name for the Cuban species of *Trichospermum* Bl. (Malvaceae: Grewioideae) also found in Mexico and Central America is *T. lessertianum* (Hochr.) Dorr, **comb. n.** The name *T. mexicanum* (DC.) Baill., incorrectly applied to this Cuban species, should be restricted to a species endemic to western and southern Mexico.

Keywords

Belotia, Cuba, Grewioideae, Malvaceae, Mexico, new combination, Tiliaceae, *Trichospermum*

Introduction

Trichospermum Bl. (Malvaceae: Grewioideae, or Tiliaceae) is a genus of ca. 40 species found in tropical America, Asia, and the Pacific (Kostermans 1962, 1972). *Belotia* A. Rich., a generic synonym of *Trichospermum*, was described from Cuba. Misinterpretations of the legitimacy and identity of its generitype, *B. grewiifolia* A. Rich., have led authors treating *Trichospermum* (or *Belotia*) for various floras and revisions to adopt species names that are incorrect. Sorting out this confusion requires determining where *Belotia* was first published (there are three competing publications); demonstrating that *B. grewiifolia* was

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nomenclaturally superfluous when published; and establishing the identity of the name, *Grewia mexicana* DC., that should have been adopted as the generitype of *Belotia*.

Achille Richard published *Belotia* in three different works that appeared in the 1840s; in volume 10 of Ramón de la Sagra's *Historia física, política y natural de la isla de Cuba* (Richard 1845: 82; see also Stafleu and Cowan 1983: no. 10.000), in an unnumbered volume of a French edition of the same work (Richard 1841: 207; see also Stafleu and Cowan 1983: nos. 9150, 10.002), and in the second volume of Charles d'Orbigny's *Dictionnaire universel d'histoire naturelle* (Richard 1842: 539; see also Stafleu and Cowan 1981: no. 7096; Evenhuis 1990). The volumes of the French version of de la Sagra's *Historia*, at least, were issued in parts (livraisons) and these parts were distributed well before the publication dates given on the volumes as a whole (Brizicky 1962: 84–86; see also Stafleu and Cowan 1983: no. 9150). While the title pages of both the French and Spanish volumes of de la Sagra's *Historia* that include *Belotia* have the year 1845, Brizicky (1962: 84–86) determined that the description of *Belotia* in the French edition actually appeared in a part (livraison) issued in 1841. The strongest evidence for this is the review of Richard's contribution to Cuban botany published by Grisebach (1842), which established that the livraison containing *Belotia* was available by the end of 1841. This is the publication date accepted by Stafleu and Cowan (1983: nos. 9150, 10.002). The publication of the second volume of d'Orbigny's *Dictionnaire*, which included a description of *Belotia*, followed in 1842. Stafleu and Cowan (1981: no. 7096) dated this volume 30 July 1842, but Evenhuis (1990) subsequently presented evidence that 20 June 1842 is the latest date at which the livraison containing a description of *Belotia* could have appeared. (The earliest possible, but not probable, date for the publication of this livraison is 24 January 1842). The description of *Belotia* in the *Dictionnaire* cites the paging and plate number (albeit incorrect) of the Spanish edition of de la Sagra's *Historia*, which implies that the latter was typeset but presumably not yet distributed. No other evidence has surfaced indicating that the publication of *Belotia* in the Spanish edition of de la Sagra's *Historia* was earlier than the date on the title page (i.e., 1845; see also Stafleu and Cowan 1983: no. 10.000) and without proof establishing some other date, the one appearing in the printed matter must be accepted as correct (see McNeill et al. 2006: Art. 31.1).

The fact that *Belotia* was first published in the French edition of de la Sagra's *Historia* has nomenclatural implications for the legitimacy of its generitype, *B. grewiifolia*. In the French edition, *B. grewiifolia* (Richard 1841: 209) is a superfluous renaming of *Grewia mexicana* DC. (1824: 510) as the latter name was placed in synonymy and is the name that should have been adopted (McNeill et al. 2006: Art. 52). Later, in both d'Orbigny's *Dictionnaire* and in the Spanish edition of de la Sagra's *Historia*, Richard equivocated with respect to this synonymy. In the former instance, he (1842: 540) wrote "*Belotia greviæfolia* Rich. (*Fl. Cubens* p. 82, t. 22), qui est probablement le *Grewia mexicana* DC." and in the latter (1845: 83) he cited *G. mexicana* in synonymy with a question mark. Sprague (1921), who revised the genus *Belotia*, recognized that the Mexican and Cuban species differed, but he failed to appreciate that *B. grewiifolia* was an illegitimate name and he used this name for one of two species he recognized from Cuba. He also confused *B. mexicana* (DC.) K. Schum. (basionym *G. mexicana*) with yet a different

species occurring in Mexico and Central America. Bullock (1939) continued to use the illegitimate name *B. grewiifolia* for a species from Cuba, but expanded his concept of this taxon's range to include Central America. He also continued to confuse the identity of *B. mexicana*. Farr et al. (1979: 91) and Rodríguez Fuentes (2000: 31) began to clarify the nomenclatural confusion by recognizing that *B. grewiifolia* is illegitimate, but the former did so while citing a place of publication (d'Orbigny's *Dictionnaire*) that if in fact had been the earliest publication would have resulted in the legitimate publication of the name (see McNeill et al. 2006: Art. 52, Note 1, Ex. 12) and the latter although citing the earliest place of publication failed to realize that *G. mexicana* is not conspecific with the Cuban species of *Trichospermum*.

Although the plate accompanying the description of *Belotia grewiifolia* is numbered tab. 21, the protologues of both Spanish and French versions of de la Sagra's *Historia* incorrectly cite tab. 22, which is a plate illustrating *Triumfetta grossulariifolia* A. Rich. (Malvaceae: Grewioideae). The plate caption for *B. grewiifolia* in the French (Richard 1841: 211), but not the Spanish version (Richard 1845: 84), however, is correctly labeled tab. 21. Although the plates today invariably are bound separately from the text in a folio volume, text and plates originally were probably available at the same time as each livraison of the French version, at least, of de la Sagra's *Historia* was projected to contain four folio plates accompanied by four sheets of text in octavo (see Stafleu and Cowan 1983: no. 9150). As early as March–June 1842 there is a published reference (Endlicher 1842: 108; "Belotia *A. Richard Flor. cub. 207. t. 22*") to the French text of *B. grewiifolia* and its plate (albeit misnumbered).

The type of *Grewia mexicana* agrees well with the species treated as *Trichospermum insigne* (Baill.) Kosterm. in the *Flora Nova–Galiciana* (Fryxell 2001), which has broadly ovate leaf blades with acute apices and a dense and evenly stellate–tomentum below, flowers with sepals and petals ca. 10 mm long, and capsules 16–18 × 24–28 mm. This Mexican species is very distinct from the material of *Trichospermum* collected in Cuba, which has ovate leaf blades with acuminate to long acuminate apices and a sparse stellate–tomentum below, flowers with sepals and petals 4–6 mm long, and capsules 8–10 × 10–12 mm. A new combination for the Cuban species of *Trichospermum* is necessary as the earliest available epithet belongs to a species of *Belotia*. The name *T. mexicanum*, misapplied to the Cuban species, is here considered to apply to a species endemic to western and southern Mexico that is frequently but incorrectly cited as *T. insigne*.

Taxonomic summary

***Trichospermum lessertianum* (Hochr.) Dorr, comb. nov.**
urn:lsid:ipni.org:names:77109528-1

Basionym: *Belotia lessertiana* Hochr., Annuaire Conserv. Jard Bot. Genève 18–19: 90. 1914, as "*Lessertiana.*" *Belotia grewiifolia* var. *lessertiana* (Hochr.) Vict., Contr. Inst.

Bot. Univ. Montréal 63: 13. 1948. TYPE: CUBA. La Havane, s.d. (fl), *Delessert s.n.* (holotype: G-DEL; isotypes: K, NY! [00084148], P).

Belotia caribaea Sprague, Bull. Misc. Inform. Kew 1921(7): 276. 1921. *Trichospermum caribaeum* (Sprague) Kosterm., Reinwardtia 6(3): 278. 1962. TYPE: ST. LUCIA, s.d. (fl, fr), *Anderson s.n.* (holotype: K! [K000381875]).

Belotia reticulata Sprague, Bull. Misc. Inform. Kew 1921(7): 277. 1921. *Trichospermum reticulatum* (Sprague) Kosterm., Reinwardtia 6(3): 279. 1962. TYPE: NICARAGUA. Chontales, *Seemann 11* (holotype: K).

Belotia campbellii Sprague, Bull. Misc. Inform. Kew 1921(7): 277. 1921, as "*Campbellii*." TYPE: BELIZE. Seven Hills Estate, s.d. (fl, fr), *E.J.F. Campbell 75* (holotype: K! [K000381880]; isotype: F).

Belotia tabascana Sprague, Bull. Misc. Inform. Kew 1921(7): 278. 1921. *Trichospermum tabascanum* (Sprague) Kosterm., Reinwardtia 6(3): 279. 1962. TYPE: MEXICO. Tabasco: Lomas de San Sebastián, 26 Mar 1889 (fl), *Rovirosa 416* (holotype: K; isotypes: F, NY! [00546807], US! [00098426]).

Distribution. Southern Mexico to Costa Rica, and in western Cuba. A collection stated to be from St. Lucia (the type of *Belotia caribaea*) represents either material cultivated in the St. Vincent Botanic Garden or mislabeled material from Cuba (Bornstein 1989: 185–186).

Note. The name *Trichospermum grewiifolium* (A. Rich.) Kosterm. is frequently applied to this species, but it is illegitimate because as explained in the text *Belotia grewiifolia* A. Rich. was nomenclaturally superfluous when published (McNeill et al. 2006: Art. 52.1) and cannot serve as the basionym for this combination. More recently, Rodríguez Fuentes (2000: 32) accepted *T. grewiifolium* as a new species published by Kostermans (1962) apparently in the belief that Kostermans had explicitly excluded the purported basionym's type, but this is debatable and in any case *T. grewiifolium* is not a valid name as Kostermans failed to designate a nomenclatural type (McNeill et al. 2006: Art. 37.1).

Trichospermum mexicanum (DC.)

Trichospermum mexicanum (DC.) Baill., Hist. Pl. 4: 179. 1872 (excluding synonym *Adenodiscus mexicanus* Turcz.). *Grewia mexicana* DC., Prodr. 1: 510. 1824. *Belotia mexicana* (DC.) K. Schum. in Engler & Prantl, Nat. Pflanzenfam. 3(6): 28. 1890. *Belotia grewiifolia* A. Rich. in R. de la Sagra, Hist. Phys. Cuba, Pl. Vasc.: 209, t. 21. 1841 [1845], as "*greviæfolia*," nom. illeg. TYPE: MEXICO. "Nova Hispania," 1807 (fl), *Lagasca y Segura 86* (holotype: G-DC [IDC microfiche 216!]).

Belotia insignis Baill., Adansonia 10: 182. 1872. *Trichospermum insigne* (Baill.) Kosterm., Reinwardtia 6(3): 279. 1962, as "*insignis*." TYPE: MEXICO. "Andes of Mexico," *Ghiesbreght 356* (holotype: P, photo [F neg. no. 35430] US!; isotype: F).

Distribution. Endemic to western and southern Mexico, where it appears to be restricted to the Pacific lowlands and hills from Sinaloa to Oaxaca.

Note. McVaugh (2000: 526–527) speculated that the type of *Grewia mexicana* may have been a garden specimen grown at Madrid from Mexican seed contributed by the Expedición Real.

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